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UNITED STATES DEPARTMENT OF AGRICULTURE

BUREAU OF ENTOMOLOGY AND PLANT QUARANTINE

FOREST INSECT INVESTIGATIONS

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FOREST INSECT SURVEY - SIERRA NATIONAL FOREST

SEASON OF 1944

by

G. R. Struble

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Forest Insect Laboratory
Berkeley 4, California
December 15, 1944

SUBJECT-

INDEX No.-

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SEASON OF 1944

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Berkeley 4, California
December 15, 1944

FOREST INSECT SURVEY - SIERRA NATIONAL FOREST
SEASON OF 1944

1. FIELD EXAMINATION

Bureau of Entomology and Plant Quarantine.

J. E. Patterson, G. R. Struble - October 29 to November 2.

2. AREAS EXAMINED

Parts of Chowchilla, Wawona, Willow Creek, Chiquito, Kaiser, Shaver and Kings River.

3. SURVEY METHODS

Reconnaissance - Road strips and counts of faded trees from lookout points.

4. CURRENT INSECT TRENDS AND LOSSES.

Generally low endemic or endemic over the entire forest; slight increases in some areas over conditions prevailing a year ago, notably in the Footman Ridge and Signal Peak units. Faded trees occur singly; no grouping was observed anywhere except in areas adjacent to the Herr Ranch burn on Lewis Creek where groups of top-killed trees and poles, as a result of Ips attacks, were observed.

5. INSECTS INVOLVED IN CURRENT KILL.

Western pine beetle, Dendroctonus brevicornis Lec. in ponderosa pine; mountain pine beetle, D. monticolae Hopk. in sugar pine; Jeffrey pine beetle, D. jeffreyi Hopk. in Jeffrey pine; pine engraver beetle, Ips confusus Lec. in ponderosa pine and sugar pine.

6. SPECIAL DEVELOPMENTS DURING SEASON.

- a. Severe localized blowdowns occurred during February 1944. The worst one occurred northeast of Bass Lake in the vicinity of McLeod Flat where an estimated 50 percent of the stand was downed, most of it ponderosa pine and some sugar pine. Part of this material has been salvaged. The Forest Service is encouraging the logging of the balance of this downed material by local mills.
- b. Blowdowns elsewhere were less numerous, but evidently served in some localities as nuclei for attacks on standing timber. The blowdowns generally are considered as menacing to living timber because of the possibility of attacks originating from broods reared in them.

7. AREAS REQUIRING SPECIAL ATTENTION

- a. Lewis Creek, Bass Lake. In the Lewis Creek basin there is continued aggressive Ips top and pole killing, especially in the immediate vicinity of the Herr Ranch burn. Additional activity

seems to have developed as a result of logging slash near the Dupzyk Mill. The number of currently infested trees is estimated between 100 and 150, mainly of small size.

At Bass Lake the losses are slightly upward as compared with a year ago. Part of the increase is believed to be the result of the breeding of Ips and D. brevicornis in windthrown trees. The estimated number of trees currently infested is between 75 and 100.

- b. At Signal Ridge and Footman Ridge there was a sharp rise of infestations in sugar pine as compared with the past several years. Most of the infested trees found were killed by summer, 1944, attacks of the mountain pine beetle. The suddenness of these attacks on highly vigorous full crowned, medium age trees is indicative of unusual aggressiveness.

8. OTHER INSECT PROBLEMS.

Reproduction weevil, Cylindrocopturus eatoni Buch. Weevil damage to ponderosa pine reproduction in the Harris Ranch burn showed no signs of letting up early in July. This weevil is aggressively killing patches of young trees varying in height from 3 to 7 feet over the entire area. Control investigations have thus far been insufficient to develop practicable methods for eradicating this pest over large areas. Recent tests of the new insecticide DDT showed great promise of success in controlling the weevil where values at stake warrant the relatively high cost of applying this insecticide.

9. RECOMMENDATIONS

- a. Maintenance control work should be undertaken in the Lewis Creek and Bass Lake areas. As in the past, this work can probably be handled by regularly employed personnel without a need for additional expenditure of funds.
- b. Conditions found on Signal Ridge and Footman Ridge indicate a need for close watching during another field season to detect any increase in activity. Control work is not immediately necessary.

Table 1. Measured Pine Losses - Road Strips 1943-1944

Area	Unit No.	Sample Strip Designation	Acres	Total Number of Trees and Volume BM per Acre							
				Ponderosa Pine				Sugar Pine		Jeffrey Pine	
				1943		1944		1943		1944	
				Trees	BM/Ac	Trees	BM/Ac	Trees	BM/Ac	Trees	BM/Ac
<u>VIRGIN PINE TYPE</u>											
Chowchilla	2	Footman Ridge	116	0	0	1	12	4	60	3	31
Willow Cr.	7	McLeod Flat	84	2	21	3	23	0	0	0	0
	11	Fish Creek	56	1	14	2	100	0	0	0	0
Chiquito	13	Grizzley Mdw.	68	0	0	1	43	1	138	0	0
	13	Arnold (RD-2)	120	1	22	0	0	0	0	0	0
	13	Jackass (RD-3)	32	3	17	0	0	0	0	0	0
	13	Summit (RD-4)	116	2	1	7	20	0	0	0	0
Kaiser	15	Stump Springs	150	6	74	7	37	2	22	0	0
Shaver	16	Big Creek	212	1	0.5	1	12	0	0	1	6
Kings	21	Fence Meadow	252	3	92	4	9	0	0	4	50
<u>CUTOVER PINE TYPE</u>											
Chowchilla	2	Footman Ridge	156	0	0	1	5	0	0	3	44
Wawona	3	Signal Ridge	240	0	0	2	7	0	0	8	56
Willow Cr.	6	Redwood Cr.	120	0	0	0	0	0	0	1	0.2
	6	Soquel	100	1	0.4	0	0	1	0.3	1	1
	6	Willard Cr.	124	0	0	0	0	0	0	0	0
	11	Fish Creek	84	0	0	0	0	0	0	0	0
	12	Saginaw	176	3	2	4	10	0	0	0	0
Shaver	18	Pine Ridge	200	1	2	0	0	0	0	1	11

Table 2. Estimated Bark Beetle Losses during 1944 in Commercial Pine Stands.

<u>Unit No.</u>	<u>Name of Unit</u>	<u>Acreage</u>	<u>Trees</u>
<u>Loss of 10 Board Feet or Less Per Acre (Normal Infestation).</u>			
12	Cascadel	6,400	30
5	Miami*	7,200	20
6	Soquel	14,080	25
8	Chilcoot	5,760	10
10	Whiskey Ridge	14,080	30
17	Jose Basin	12,800	40
18	Pine Ridge	11,520	25
9	Sand Creek	16,000	30
4	Fish Camp	13,440	10
<u>Loss of 11 to 20 Feet BM Per Acre (Normal Infestation)</u>			
13	Chiquito	48,000	350
1	Jerseydale	7,600	50
7	Bass Lake	17,920	150
16	Shaver Lake	21,000	125
<u>Loss of 21 to 30 Feet BM Per Acre (Light Infestation)</u>			
11	Rock Creek	10,500	175
19	Blue Canyon	14,000	200
20	Dinkey Mountain	8,320	110
21	Oak Flat	10,240	130
14	Daulton	22,550	200
15	Canyon	3,800	65
22	Patterson Mtn.	23,680	200
<u>Loss of 31 to 40 Feet BM Per Acre (Moderate Infestation)</u>			
2	Footman Ridge	3,800	80
3	Signal Ridge	7,040	90
5	Miami**	12,160	300

* Hugh Ryan

**Lewis Creek

